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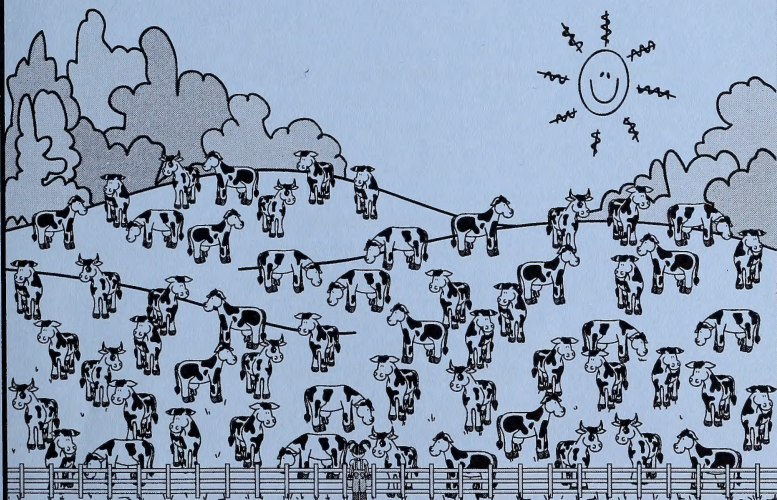


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GRADE THREE MATHEMATICS: MODULE 6

ADDITION AND SUBTRACTION OF LARGE NUMBERS

Home Instructor's Guide: Days 10–18
and
Assignment Booklet 6B



Learning
Technologies
Branch

Alberta
LEARNING

Grade Three Mathematics
 Module 6: Addition and Subtraction of Large Numbers
 Home Instructor's Guide: Days 10–18 and Assignment Booklet 6B
 Learning Technologies Branch
 ISBN 0-7741-2317-6

This document is intended for	
Students	✓
Teachers	✓
Administrators	
Home Instructors	✓
General Public	
Other	



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- Alberta Learning, <http://www.learning.gov.ab.ca>
- Learning Technologies Branch, <http://www.learning.gov.ab.ca/lrb>
- Learning Resources Centre, <http://www.lrc.learning.gov.ab.ca>

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MODULE 6: ADDITION AND SUBTRACTION OF LARGE NUMBERS

DAILY SUMMARY

DAY 10: The next few days of Module 6 will discuss subtraction of three-digit numbers. In this lesson the student uses base ten blocks to explore the process of subtraction without regrouping. Pictures are also used to represent the subtraction process.

DAY 11: Pencil-and-paper strategies for solving subtraction problems are discussed. Encourage the student to build a number of strategies for solving subtraction problems.

DAY 12: The student uses base ten blocks to explore subtraction that requires regrouping (borrowing). Again, it is important that the student use concrete materials to represent this process so that a visual image of subtraction can be formed. If your student gets confused at any time while doing addition or subtraction problems, bring out the base ten blocks and do the calculation. Some students need many concrete representations before they understand the written calculations.

DAY 13: Written methods for solving subtraction equations are presented in today's lesson. Monitor the student carefully as he or she applies the written notation to the regrouping process. Even students who have mastered the previous lessons easily may have problems with this strategy. Provide support and extra practice as needed.


DAY 14: Verifying answers is the topic of this lesson. The student applies estimation strategies to verify answers in subtraction problems. The student also learns how to use the inverse, or opposite, operation to check addition and subtraction answers.

DAY 15: The student applies personal addition and subtraction strategies to solving word problems involving calculating distances, money totals, or elapsed time. The student creates some travel problems for you or another student to solve. Either solve the problems or check to verify that all the necessary information to solve the problem is included.

DAY 16: Reading and writing money notation is discussed in the first part of this lesson. The student learns how to add and subtract using money notation. Several problems involving money are presented for the student to solve. Your student will do additional work with money in the next module.

DAY 17: Today's lesson introduces strategies for solving equations with missing numbers. The students are familiar with solving equations where the missing number is after the equal sign. This lesson demonstrates how to find a number that is missing when it is before the equal sign.

DAY 18: A variety of exercises review the skills presented in this module. If your student has difficulty with any of the activities, review the pertinent lesson or reteach the skill.



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ASSIGNMENT BOOKLET 6B

Grade Three Mathematics
Module 6: Days 10–18

Home Instructor's Comments and Questions

Home Instructor's Signature

FOR SCHOOL USE ONLY

Assigned Teacher:

Date Assignment Received:

Grading:

Additional Information:

FOR HOME INSTRUCTOR USE (if label is missing or incorrect)

Student File Number:

Date Submitted:

Apply Module Label Here

Name

Address

Postal Code

*Please verify that preprinted label is for
correct course and module.*

Teacher's Comments

Teacher's Signature

Home Instructor: Keep this sheet when it is returned to you as a record of the student's progress.

INSTRUCTIONS FOR SENDING IN THIS DISTANCE LEARNING ASSIGNMENT BOOKLET

When you register for distance learning courses, you are expected to send in Assignment Booklets for corrections regularly. Try to send each Assignment Booklet as soon as you have completed it. Before sending your Assignment Booklet, please check the following:

- Are all the assignments completed? If not, explain why.
- Has your work been reread to be sure the spelling and details are correct?
- Is the record form filled out and the correct module label attached?

MAILING

1. Postage Regulations

Do **not** enclose letters with Assignment Booklets.

Send all letters in a separate envelope.

2. Postage Rates

Take your Assignment Booklet to the post office and have it weighed. Attach enough postage and seal the envelope. Assignment Booklets will travel faster if correct postage is used and if they are in large envelopes that are no more than two centimetres thick.

FAXING

1. Assignment Booklets may be faxed. Contact your teacher for the fax number.
2. All faxing costs are the responsibility of the sender.

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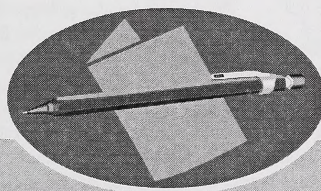
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Grade Three Mathematics

Module 6

Addition and Subtraction of Large Numbers

ASSIGNMENT BOOKLET 6B



Learning
Technologies
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Grade Three Mathematics
Module 6: Addition and Subtraction of Large Numbers
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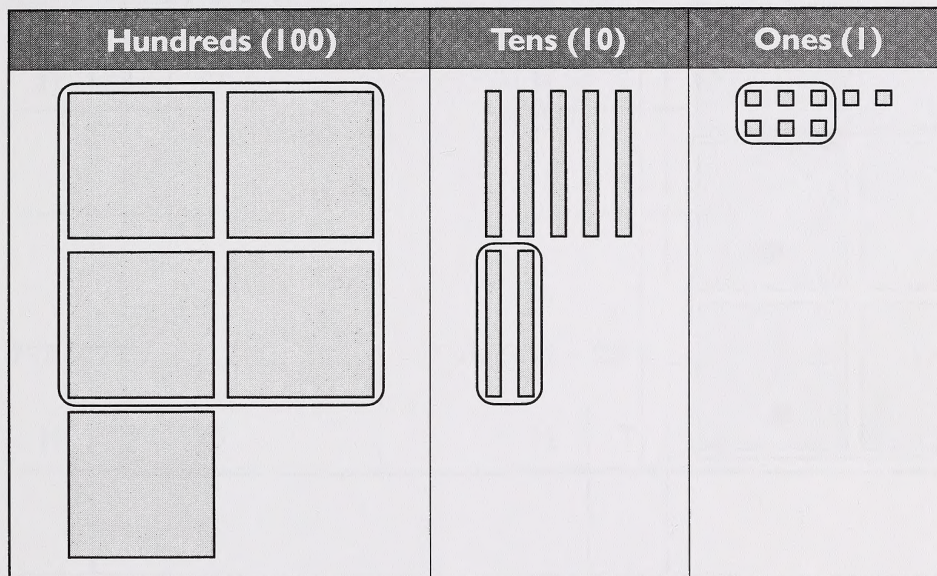
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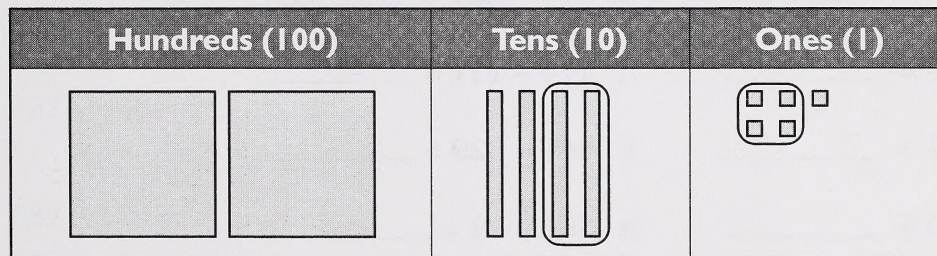
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1. Write a subtraction number sentence for each picture. The circled blocks show how many are being subtracted. Then solve the equation.

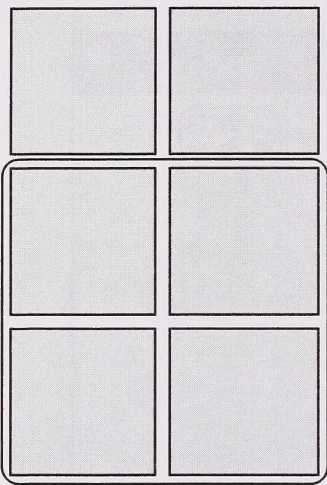

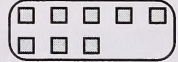
a.



b.



c.

Hundreds (100)	Tens (10)	Ones (1)
		

2. Use your base ten blocks to help you solve the number sentences.

a. $567 - 325 =$ _____

b. $376 - 231 =$ _____

c. $438 - 230 =$ _____

d. $174 - 121 =$ _____

e. $623 - 102 =$ _____

f. $549 - 329 =$ _____

g. $531 - 400 =$ _____

h. $398 - 12 =$ _____

1. Use the place-value chart to help you find each answer.

a. $528 - 316 =$ _____

H	T	O

b. $346 - 36 =$ _____

H	T	O

c. $775 - 753 =$ _____

H	T	O

d. $934 - 23 =$ _____

H	T	O

2. Solve these number sentences using your favourite strategies. Show your work or explain your strategy.

a. $587 - 246 =$ _____

b. $837 - 120 =$ _____

c. $671 - 31 =$ _____

d. $279 - 236 =$ _____

e. $925 - 404 =$ _____

1. Journal Entry

Do you understand how regrouping works? Is there anything that you find confusing about today's lesson? Tell your teacher how you are doing with regrouping. Ask about anything that is confusing to you.

2. Use your base ten blocks to help you solve the subtraction equations. Regroup when you need to.

a.
$$\begin{array}{r} 429 \\ - 246 \\ \hline \end{array}$$

b.
$$\begin{array}{r} 341 \\ - 125 \\ \hline \end{array}$$

c.
$$\begin{array}{r} 268 \\ - 159 \\ \hline \end{array}$$

d.
$$\begin{array}{r} 524 \\ - 186 \\ \hline \end{array}$$

e.
$$\begin{array}{r} 600 \\ - 479 \\ \hline \end{array}$$

f.
$$\begin{array}{r} 492 \\ - 377 \\ \hline \end{array}$$

1. Use the pencil-and-paper method to show regrouping. Subtract to find the answer.

a.

H	T	O
6	9	5
- 2	4	7

b.

H	T	O
4	0	0
- 1	3	5

c.

H	T	O
3	7	3
- 1	8	6

d.

H	T	O
4	2	1
-	9	3

e.

H	T	O
5	8	0
- 3	3	5

f.

H	T	O
8	6	7
- 2	8	3

2. Use your favourite strategies to solve the number sentences. Show your work or explain your thinking.

a. $739 - 243 =$ _____

b. $392 - 100 =$ _____

c. $768 - 479 =$ _____

d. $378 - 250 =$ _____

e. $453 - 219 =$ _____

3. Explain which strategy you use most often to subtract. Explain why you use it the most.

1. Circle the correct answer in each pair. Use rounding to show how you know.

$$\begin{array}{r} \text{a. } 321 \\ - 122 \\ \hline 209 \end{array}$$

$$\begin{array}{r} 321 \\ - 122 \\ \hline 199 \end{array}$$

$$\begin{array}{r} \text{b. } 443 \\ - 205 \\ \hline 238 \end{array}$$

$$\begin{array}{r} 443 \\ - 205 \\ \hline 338 \end{array}$$

$$\begin{array}{r} \text{c. } 529 \\ + 87 \\ \hline 606 \end{array}$$

$$\begin{array}{r} 529 \\ + 87 \\ \hline 616 \end{array}$$

$$\begin{array}{r} \text{d. } 825 \\ - 695 \\ \hline 230 \end{array}$$

$$\begin{array}{r} 825 \\ - 695 \\ \hline 130 \end{array}$$

2. Solve each subtraction problem. Check your work by adding. Show both calculations.

$$\begin{array}{r} \text{a. } 678 \\ - 135 \\ \hline \end{array}$$

$$\begin{array}{r} \text{b. } 421 \\ - 18 \\ \hline \end{array}$$

$$\begin{array}{r} \text{c. } 387 \\ - 196 \\ \hline \end{array}$$

3. Solve each addition problem. Check your work by subtracting. Show both calculations.

$$\begin{array}{r} \text{a. } 624 \\ + 73 \\ \hline \end{array}$$

$$\begin{array}{r} \text{b. } 735 \\ + 219 \\ \hline \end{array}$$

$$\begin{array}{r} \text{c. } 291 \\ + 524 \\ \hline \end{array}$$

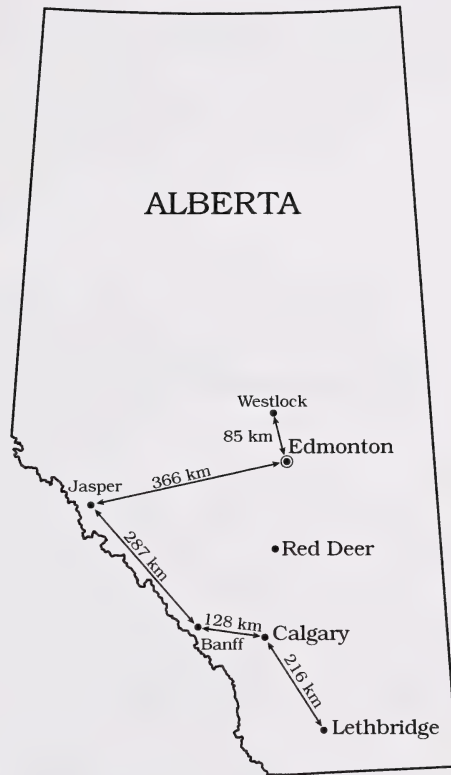
$$\begin{array}{r} \text{d. } 733 \\ + 85 \\ \hline \end{array}$$

4. Journal Entry

You have learned about three ways to check your answers. Which is your favourite method?

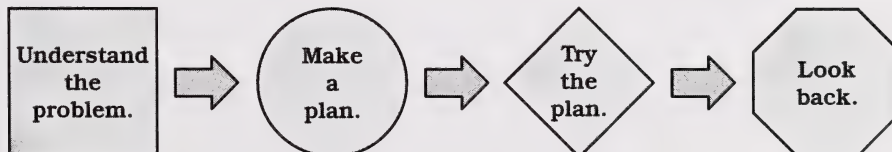
How do you choose which method to use when you check answers?

Sarah's family returned to Westlock by a different route. The map shows the route they took.



Look at the map to find the distances between towns and cities.

Use the problem-solving steps and your favourite strategies to find the answers to the following problems. Show your work. Write a sentence to answer each question.



1. On the trip home, Sarah and her family drove from Lethbridge to Banff and stayed overnight. How many kilometres is the trip from Lethbridge to Banff?

2. The next day, they drove from Banff to Jasper and stayed overnight. On the third day, they drove the rest of the way home. On which day did they travel the longest distance?

3. Is it farther from Lethbridge to Jasper or Jasper to Westlock? How much farther is it? Use the routes shown for the distances.

Use your calculator to help you with the next questions. Show the numbers you added or subtracted. **Hint:** The return trip was from Lethbridge to Westlock.

4. How many kilometres did Sarah and her family travel on the return trip?

Sarah and her family travelled _____ kilometres on the return trip.

5. On the trip to Lethbridge Sarah travelled 594 km. How much farther was the route for the return trip?

The return trip was _____ kilometres longer than the trip to Lethbridge.

6. Write a problem about a trip you have taken or would like to take. Be sure to include all the facts so your teacher can solve the problem. Draw a map if you like. Use your own paper if you need more room.

1. Look at the price of each item. Write the cost in words.

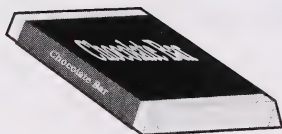
Example:



◦ \$1.25

one dollar and twenty-five cents

a.



◦ \$0.97

b.



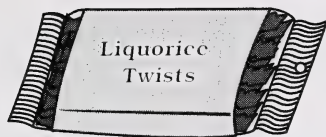
◦ \$7.95

c.



◦ \$1.50

d.



o \$2.49

e.



o \$15.00

2. A pet store is having a sale.

<h1>K's Pet Store</h1>			
<h2>Hamsters</h2>		<div>SALE</div> <div>\$3²⁹_{each}</div>	
<p>\$5⁹⁵ each</p> <p>Hamster Food</p>	<p>\$3⁵⁰ each 150 g box</p>	<p>CAT FOOD 500 g box</p>	
<p>Kitten Collars</p> <p>\$6²⁵ each</p>	<p>TOYS</p> <p>Kitten Toys 99¢ each Large variety in stock</p>	<p>Angel Fish</p> <p>\$2⁴⁹ each</p>	<p>Fish Nets All Sizes</p> <p>\$1³³ each</p>
		<p>Fish Food</p> <p>87¢ 200 g</p>	

¹ Hamster, kitten, toy, fish graphics © 2002-2003 www.clipart.com

Use the prices from the flyer to solve the following problems. Show your work.
Write the answer in a sentence.

- a. Sarah's friend wants to buy a hamster and some hamster food. How much will it cost?
-

- b. Sarah wants to buy a kitten toy and some cat food. She has \$4.50. Does she have enough money?
-

- c. Sarah's brother is buying two new angel fish for his fish tank. How much will they cost?

- d. Sarah's brother pays for the two angel fish with a \$5.00 bill. How much change will he get back?

1. Find the missing numbers in the addition equations. Show your work.

a. $9 + \underline{\hspace{2cm}} = 18$

b. $\underline{\hspace{2cm}} + 15 = 98$

c. $134 + \underline{\hspace{2cm}} = 389$

d. $\underline{\hspace{2cm}} + 246 = 557$

2. Find the missing numbers in the subtraction equations. Show your work.

a. $16 - \underline{\hspace{2cm}} = 8$

b. $\underline{\hspace{2cm}} - 25 = 12$

c. $134 - \underline{\hspace{2cm}} = 24$

d. $\underline{\hspace{2cm}} - 241 = 305$

3. Use the missing number equations to help you solve these problems. Write a sentence answer to each problem.

- a. Sarah spent \$47 on the trip. She bought a T-shirt at the zoo and a necklace in Jasper. The necklace was \$25. How much was the T-shirt?

$\underline{\hspace{2cm}} + \$25 = \$47$

- b. Oliver had \$50 for spending money on the trip. He had 16 dollars left when he got home. How much did he spend?

$\$50 - \underline{\hspace{2cm}} = \16

1. Use your favourite strategies to add.

$$\begin{array}{r} \text{a. } 520 \\ + 139 \\ \hline \end{array}$$

$$\begin{array}{r} \text{b. } 357 \\ + 62 \\ \hline \end{array}$$

$$\begin{array}{r} \text{c. } 145 \\ + 217 \\ \hline \end{array}$$

$$\begin{array}{r} \text{d. } 65 \\ + 639 \\ \hline \end{array}$$

$$\begin{array}{r} \text{e. } 196 \\ + 428 \\ \hline \end{array}$$

$$\begin{array}{r} \text{f. } 224 \\ + 706 \\ \hline \end{array}$$

2. Fill in the circle of the best estimate for each question. Show how you know.

a. $392 + 415 = \square$

- ☐ 700
- ☐ 800
- ☐ 900

b. $59 + 721 = \square$

- ☐ 900
- ☐ 800
- ☐ 700

c. $346 + 104 = \square$

- ☐ 460
- ☐ 450
- ☐ 440

d. $449 + 297 = \square$

- ☐ 750
- ☐ 760
- ☐ 770

3. Use your favourite strategies to subtract.

$$\begin{array}{r} \text{a. } 547 \\ - 142 \\ \hline \end{array}$$

$$\begin{array}{r} \text{b. } 219 \\ - 65 \\ \hline \end{array}$$

$$\begin{array}{r} \text{c. } 932 \\ - 317 \\ \hline \end{array}$$

$$\begin{array}{r} \text{d. } 87 \\ - 48 \\ \hline \end{array}$$

$$\begin{array}{r} \text{e. } 751 \\ - 136 \\ \hline \end{array}$$

$$\begin{array}{r} \text{f. } 679 \\ - 291 \\ \hline \end{array}$$

4. Estimate each answer. Show your thinking.

a. $531 - 429 = \square$ Estimate: _____

b. $295 - 46 = \square$ Estimate: _____

c. $709 - 484 = \square$ Estimate: _____

5. Circle the correct answer of each pair. Show how you know.

$$\begin{array}{r} \text{a. } 359 \\ + 162 \\ \hline 521 \end{array}$$

$$\begin{array}{r} 359 \\ + 162 \\ \hline 511 \end{array}$$

$$\begin{array}{r} \text{b. } 689 \\ + 224 \\ \hline 903 \end{array}$$

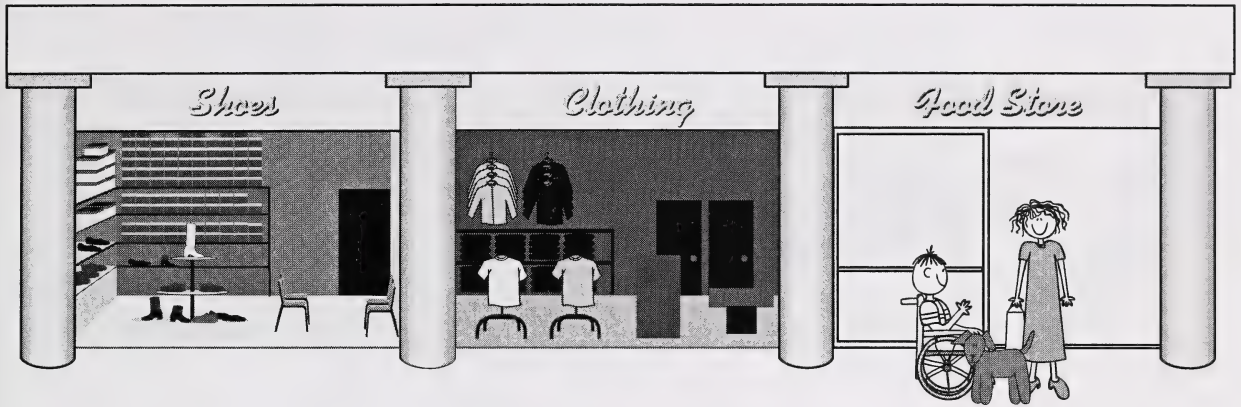
$$\begin{array}{r} 689 \\ + 224 \\ \hline 913 \end{array}$$

$$\begin{array}{r} \text{c. } 723 \\ - 417 \\ \hline 314 \end{array}$$

$$\begin{array}{r} 723 \\ - 417 \\ \hline 306 \end{array}$$

$$\begin{array}{r} \text{d. } 127 \\ - 54 \\ \hline 133 \end{array}$$

$$\begin{array}{r} 127 \\ - 54 \\ \hline 73 \end{array}$$



6. Luke and his Mom went shopping at the mall. Luke needed some new shoes and clothes for school. They also had to get some groceries.

Mark the correct answer.

- a. Luke's mom bought him two pairs of jeans and a shirt. The bill came to 105 dollars. The jeans were 67 dollars. Which equation shows a way you could find the cost of the shirt?

- ☐ $105 + 67 = \square$
- ☐ $67 + \square = 105$
- ☐ $67 + 105 = \square$
- ☐ $67 - 105 = \square$

- b. What was the cost of the shirt?

- ☐ \$42.00
- ☐ \$0.42
- ☐ \$38.00
- ☐ \$0.38

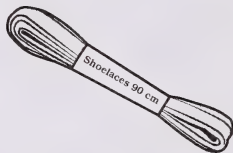
The store where Luke got his jeans had a special sale. If you spent over 100 dollars, you could choose two free items that totalled less than 5 dollars.



◦ \$2.79



◦ \$2.98



◦ \$1.58



◦ \$4.39



◦ \$2.19

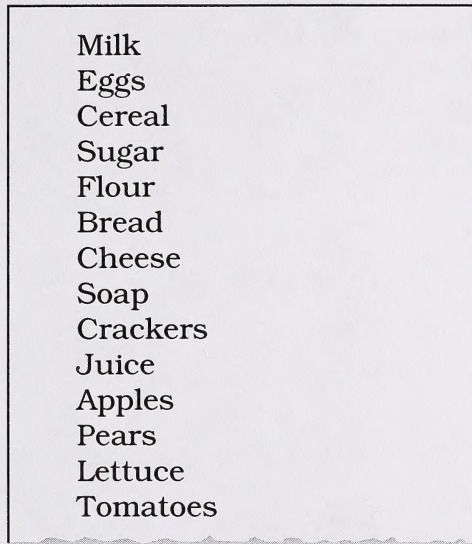
c. Which of the items above could Luke choose?

- ☐ the socks and the t-shirt
- ☐ the baseball cap and the socks
- ☐ the T-shirt and the shoelaces
- ☐ the socks and the gloves

7. Luke and his mom went to the shoe store next. The shoes that Luke liked were 89 dollars. They also bought some bedroom slippers for 16 dollars. Mom gave the store clerk 120 dollars. How much change will she get back?

- ☐ 31 dollars
- ☐ 15 dollars
- ☐ 5 dollars
- ☐ 13 dollars

8. At the grocery store, Mom asked Luke to keep track of how much they spent. Mom's list is below.



- a. What would be the best way for Luke to figure out the total?
- ☐ use pennies as counters
 - ☐ add the total in his mind
 - ☐ use a calculator
 - ☐ add each item on a piece of paper
- b. This week the total cost of the groceries was 102 dollars. Last week Mom paid 83 dollars for groceries. Estimate the difference in the cost. This week's groceries were about
- ☐ 20 dollars less
 - ☐ 20 dollars more
 - ☐ 15 dollars less
 - ☐ 25 dollars more

Timed exercise: 2 minutes

Ask your home instructor to time you for 2 minutes. Do as many questions as you can in two minutes. Write how many you completed.

$11 - 3 = \underline{\hspace{2cm}}$

$11 - 7 = \underline{\hspace{2cm}}$

$10 - 7 = \underline{\hspace{2cm}}$

$14 - 6 = \underline{\hspace{2cm}}$

$7 - 5 = \underline{\hspace{2cm}}$

$6 - 6 = \underline{\hspace{2cm}}$

$8 - 5 = \underline{\hspace{2cm}}$

$17 - 9 = \underline{\hspace{2cm}}$

$13 - 8 = \underline{\hspace{2cm}}$

$11 - 9 = \underline{\hspace{2cm}}$

$10 - 8 = \underline{\hspace{2cm}}$

$12 - 8 = \underline{\hspace{2cm}}$

$9 - 7 = \underline{\hspace{2cm}}$

$8 - 8 = \underline{\hspace{2cm}}$

$16 - 9 = \underline{\hspace{2cm}}$

$15 - 8 = \underline{\hspace{2cm}}$

$13 - 9 = \underline{\hspace{2cm}}$

$10 - 5 = \underline{\hspace{2cm}}$

$$\begin{array}{r} 8 \\ - 5 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ - 3 \\ \hline \end{array}$$

$$\begin{array}{r} 13 \\ - 5 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ - 4 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ - 0 \\ \hline \end{array}$$

$$\begin{array}{r} 12 \\ - 5 \\ \hline \end{array}$$

$$\begin{array}{r} 16 \\ - 7 \\ \hline \end{array}$$

$$\begin{array}{r} 11 \\ - 4 \\ \hline \end{array}$$

$$\begin{array}{r} 14 \\ - 8 \\ \hline \end{array}$$

$$\begin{array}{r} 12 \\ - 7 \\ \hline \end{array}$$

$$\begin{array}{r} 12 \\ - 4 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ - 3 \\ \hline \end{array}$$

Number completed	
Number correct	

STUDENT'S CHECKLIST
MODULE 6: DAYS 10 TO 18

I can ...	Put a check mark beside the things you can do.
use base ten blocks to subtract large numbers	
use a pencil and paper to subtract large numbers	
regroup numbers when I subtract	
subtract large numbers to solve problems	
check my work by estimating or using the opposite operation	

STUDENT'S COMMENTS

Some things I learned in this module are _____

Something I don't really understand yet is _____

HOME INSTRUCTOR'S CHECKLIST

Check **yes** or **not yet** for each question.

Can the student do the following?

- | | | |
|---|------------------------------|----------------------------------|
| • use base ten blocks to subtract three-digit numbers | <input type="checkbox"/> yes | <input type="checkbox"/> not yet |
| • use a pencil-and-paper method to subtract three-digit numbers | <input type="checkbox"/> yes | <input type="checkbox"/> not yet |
| • use regrouping in subtraction problems | <input type="checkbox"/> yes | <input type="checkbox"/> not yet |
| • use a variety of strategies to subtract | <input type="checkbox"/> yes | <input type="checkbox"/> not yet |
| • check answers using the inverse operation | <input type="checkbox"/> yes | <input type="checkbox"/> not yet |
| • read money notations | <input type="checkbox"/> yes | <input type="checkbox"/> not yet |
| • solve problems involving money | <input type="checkbox"/> yes | <input type="checkbox"/> not yet |
| • solve equations with missing numbers | <input type="checkbox"/> yes | <input type="checkbox"/> not yet |

HOME INSTRUCTOR'S COMMENTS
